

KING STREET BICYCLE BOULEVARD PILOT

October 18, 2016

Design Guidance

Route Planning

6 Offset intersection treatments shall be implemented to be obvious and maximize comfort for the bicyclist along the route.

3 Reduce motor vehicle volumes to or below 1,500 or 3,000 vpd, depending on the roadway characteristics.

2 Reduce 85th percentile motor vehicle speeds to or below 25 mph (20 mph preferred).

4 Minor street crossing treatments shall be implemented to minimize bicyclist delay along the route.

5 Major street crossing treatments shall be implemented to maximize bicyclist safety and comfort at crossings.

1 Pavement marking





Our Design Objective

- Provide many of the benefits of the proposed final design through interim strategies
- Assess impacts and prove the concept
- Suggest options for review and analyze:

Signs + Pavement Marking	Speed Management
Volume Management	Minor Street Crossings
Major Street Crossings	Green Infrastructure



Design Standards

- Urban Bikeway Design Guide by National Association of City Transportation Officials (NACTO)
- Urban Street Design Guide by NACTO
- Wisconsin Bicycle Facility Design Handbook by Wisconsin Department of Transportation (WisDOT)
- Facilities Development Manual (FDM) by WisDOT
- Guide for the Development of Bicycle Facilities by Association of State Highway and Transportation Officials (AASHTO)
- Manual of Uniform Traffic Control Devices (MUTCD) by Federal Highway Administration (FHWA)



Our Design Criteria + Assumptions

- Assume the T.Y. Lin International concept plans have been approved for design (with Alt C at West Avenue)
- Assume a total budget of approximately \$50,000
 - This would likely limit the scope of the project to be from 7th Street to West Avenue
 - Add 16th Street?



Our Design Process

1. Identify individual permanent elements for each management segment + prioritize their need
2. Identify temporary replacements for each permanent element + determine the unit cost
3. Identify options for reuse of materials – both existing materials for this project and future projects for after this project
4. Identify the process for Pilot-to-Permanent (P2P)
5. Suggest a Community Engagement Feedback Loop
 - What affects were shifted to other roads and intersections
 - Comments on the pilot design



Segment 1: Mini Traffic Circle



Segment 1: Mini Traffic Circle



Chronicle / Gina Gayle



Segment 1: Mini Traffic Circle

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
619.1000	Mobilization	1	EACH	\$ 301.00	\$ 301.00
633.0200	Delineators Flexible	40	EACH	\$ 40.00	\$ 1,600.00
645.0100	Traffic Control (project)	1	EACH	\$ -	\$ -
646.0106	Pavement Marking Epoxy 4-Inch	400	LF	\$ 0.50	\$ 200.00
	Plantings	1	LS	\$ 2,500.00	\$ 2,500.00
				Construction Cost	\$ 4,300.00
			Original Design	25%	\$ 1,075.00
			CA	5%	\$ 215.00
					\$ 5,590.00
				Replicated Design	\$ 537.50



Segment 2: Curb Extensions



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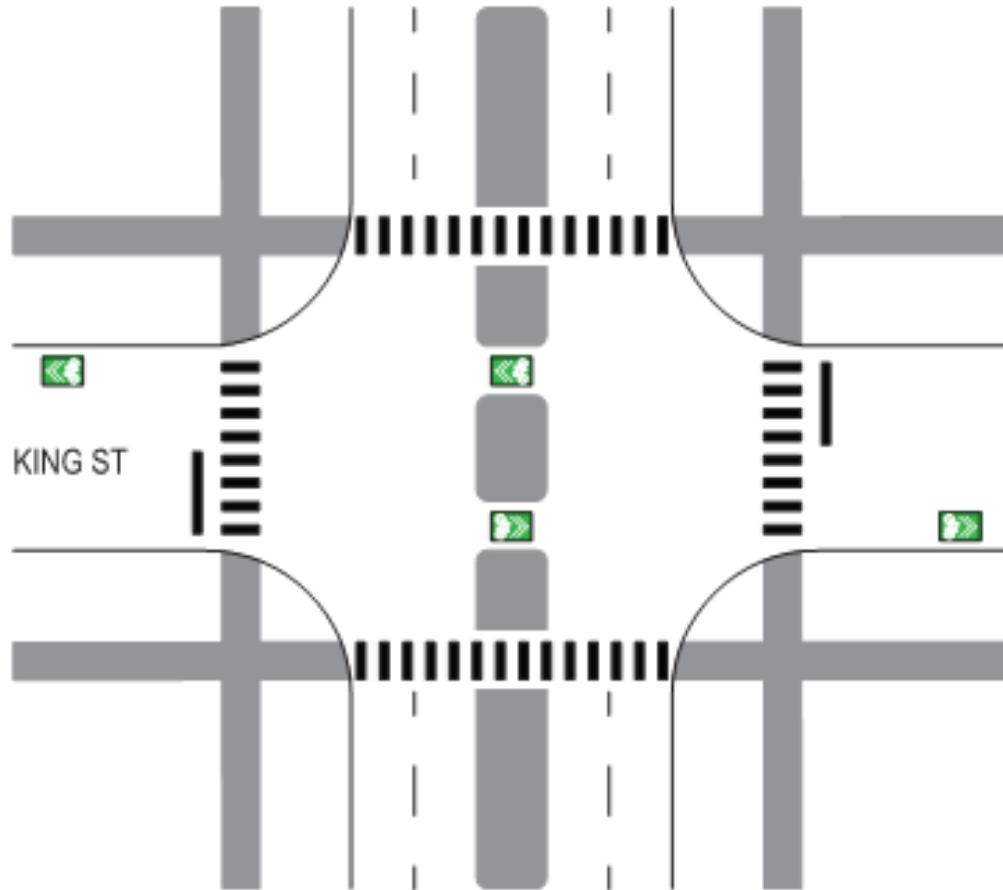


Segment 2: Curb Extensions

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
619.1000	Mobilization	1	EACH	\$ 406.00	\$ 406.00
633.0200	Delineators Flexible	40	EACH	\$ 40.00	\$ 1,600.00
645.0100	Traffic Control (project)	1	EACH	\$ -	\$ -
646.0106	Pavement Marking Epoxy 4-Inch	400	LF	\$ 0.50	\$ 200.00
	Plantings	1	LS	\$ 4,000.00	\$ 4,000.00
				Construction Cost	\$ 5,800.00
			Original Design	40%	\$ 2,320.00
			CA	5%	\$ 290.00
					\$ 8,410.00
				Replicated Design	\$ 580.00



Segment 3: West Avenue Crossing



Alt C: Restrict All Left Turns on West
Restrict All Cross Auto Traffic on King
Greenway Crossings & Median Refuge
(Split)



Segment 3: West Avenue Crossing

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
619.1000	Mobilization	1	EACH	\$ 542.40	\$ 542.40
633.0200	Delineators Flexible	130	EACH	\$ 40.00	\$ 5,200.00
645.0100	Traffic Control (project)	1	EACH	\$ 1,500.00	\$ 1,500.00
646.0106	Pavement Marking Epoxy 4-Inch	1292	LF	\$ 0.50	\$ 646.00
646.0126	Pavement Marking Epoxy 8-Inch	402.6	LF	\$ 1.00	\$ 402.60
	Plantings	1	LS	\$ 5,000.00	\$ 5,000.00
				Construction Cost	\$ 12,748.60
			Design	25%	\$ 3,187.15
			CA	5%	\$ 637.43
					\$ 16,573.18



Summary

	Quantity	Unit Cost	
West Avenue	1	\$ 12,748.60	\$ 12,748.60
Mini Traffic Circle	2	\$ 4,300.00	\$ 8,600.00
Curb Extensions	3	\$ 5,800.00	\$ 17,400.00
		Construction Cost	\$ 38,748.60
		Design	\$ 8,279.65
		CA	\$ 1,937.43
		Bidding	\$ 2,500.00
		ISG Fee	\$ 12,717.08
		Total Project Cost	\$ 51,465.68

BE EXTRAORDINARY + EXCEPTIONAL



f /ISGroupInc

t /ISGroupInc

in /i&s-group

ISG